

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An image processing apparatus comprising:
a sensor board unit arranged to receive image data based on a scanned original document;

an arithmetic processing unit which processes said image data to create a reproduction of said original document, ~~being a digital signal prepared based on an image, as a manifest image~~; said arithmetic processing unit including,

a a programmable ~~an~~ arithmetic processing section of SIMD (Single Instruction Multiple Data stream) type that can process a plurality of image data at the same time;
a plurality of memories connected to said arithmetic processing section; ~~and~~
a memory controller which controls each of said memories, and
an image writing unit arranged to transfer said reproduction of said original document to a second document,

wherein said memory controller controls transfer of image data performed between said memory and said arithmetic processing section based on image data processing said programmable arithmetic processing section is programmed to perform.

Claim 2 (Original): The image processing apparatus according to claim 1, wherein said memory controller is connected to a control register, and said control register has a data transfer mode setting function for setting the data transfer mode of the memory connected to the memory controller.

Claim 3 (Original): The image processing apparatus according to claim 2, wherein said controller register changes over setting of a random access mode in which an address is set to access the memory, and setting of an automatic access mode in which an address is

automatically updated to access the memory, in accordance with a control signal provided from outside.

Claim 4 (Currently Amended): The image processing apparatus according to claim 2, wherein said control register reads data redundantly from said memory, in accordance with a control signal provided from outside, and sets a redundant readout transfer mode for transferring data to said arithmetic processing section, such that a plurality of processing elements in said arithmetic processing section receive data from a single memory address.

a¹ Claim 5 (Original): The image processing apparatus according to claim 2, wherein said control register reads data from said arithmetic processing section by thinning out, in accordance with a control signal provided from outside, and sets a thinning-out read transfer mode for transferring data to said memory.

Claim 6 (Currently Amended): An image processing apparatus comprising:
a sensor board unit arranged to receive image data based on a scanned original document;

an arithmetic processing means for processing said image data to create a reproduction of said original document, ~~being a digital signal prepared based on an image, as a manifest image~~, said arithmetic processing means including,

a programmable an arithmetic processing section of SIMD (Single Instruction Multiple Data stream) type that can process a plurality of image data at the same time;
a plurality of memories connected to said arithmetic processing section; ~~and~~
a memory controller for controlling each of said memories, and
an image writing unit arranged to transfer said reproduction of said original document to a second document,

wherein said memory controller controls transfer of image data performed between said memory and said arithmetic processing section based on image data processing said programmable arithmetic processing section is programmed to perform.

Claim 7 (Original): The image processing apparatus according to claim 6, wherein said memory controller is connected to a control register, and said control register has a data transfer mode setting function for setting the data transfer mode of the memory connected to the memory controller.

a | Claim 8 (Original): The image processing apparatus according to claim 7, wherein said controller register changes over setting of a random access mode in which an address is set to access the memory, and setting of an automatic access mode in which an address is automatically updated to access the memory, in accordance with a control signal provided from outside.

Claim 9 (Currently Amended): The image processing apparatus according to claim 7, wherein said control register reads data redundantly from said memory, in accordance with a control signal provided from outside, and sets a redundant readout transfer mode for transferring data to said arithmetic processing section, such that a plurality of processing elements in said arithmetic processing section receive data from a single memory address.

Claim 10 (Original): The image processing apparatus according to claim 7, wherein said control register reads data from said arithmetic processing section by thinning out, in accordance with a control signal provided from outside, and sets a thinning-out read transfer mode for transferring data to said memory.

Claim 11 (Currently Amended): An image processing method to be executed by an image processing apparatus, said image processing apparatus including a programmable an

SIMD type arithmetic processing section for processing a plurality of image data, being digital signals prepared based on an image, at the same time; a plurality of memories connected to said arithmetic processing section; and a memory controller for controlling each of said memories, the method comprising:

receiving said image data from a sensor board unit arranged to receive image data based on a scanned original document;

a | an image data control step for controlling transfer of image data, performed between said memory and said arithmetic processing section, by said memory controller, said transfer of data based on image data processing said programmable arithmetic processing section is programmed to perform; and,

transferring a reproduction of said original document to a second document.

Claim 12 (Original): The image processing method according to claim 11, wherein said image data control step includes a data transfer mode setting step for setting data transfer mode of memories connected to the memory controller.

Claim 13 (Original): The image processing method according to claim 11, wherein said image data control step is for changing over setting of a random access mode in which an address is set to access the memory, and setting of an automatic access mode in which an address is automatically updated to access the memory, in accordance with a control signal provided from outside.

Claim 14 (Currently Amended): The image processing method according to claim 11, wherein said image data control step is for reading data redundantly from said memory, in accordance with a control signal provided from outside, and setting a redundant readout transfer mode for transferring the data to said arithmetic processing section, such that a

plurality of processing elements in said arithmetic processing section receive data from a single memory address.

Claim 15 (Original): The image processing method according to claim 11, wherein said image data control step is for reading data from said arithmetic processing section by thinning out, in accordance with a control signal provided from outside, and setting a thinning-out read transfer mode for transferring the data to said memory.

a
Claim 16 (Currently Amended): A computer readable medium for storing instructions, which when executed by a computer, causes the computer to perform an image processing method to be executed by an image processing apparatus, said image processing apparatus including a programmable ~~an~~ SIMD type arithmetic processing section for processing a plurality of image data, being digital signals prepared based on an image, at the same time; a plurality of memories connected to said arithmetic processing section; and a memory controller for controlling each of said memories , the method comprising:

receiving said image data from a sensor board unit arranged to receive image data based on a scanned original document;

an image data control step for controlling transfer of image data, performed between said memory and said arithmetic processing section, by said memory controller, said transfer of data based on image data processing said programmable arithmetic processing section is programmed to perform; and,

transferring a reproduction of said original document to a second document.

Claim 17 (New): The image processing apparatus according to claim 1, further comprising an image data control unit arranged to expand an image are of said image data.

Claim 18 (New): The image processing apparatus according to claim 17, wherein said image data control unit is arranged to scale said image data.

a!
cancel
Claim 19 (New): The image processing apparatus according to claim 17, wherein said image data control unit is arranged to synthesize a plurality of sets of image data.

Claim 20 (New): The image processing apparatus according to claim 19, wherein at least one of said plurality of sets of image data is communicated to said image processing apparatus from another apparatus.
